REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on April 23, 2003, and the references cited therewith.

No claims are amended; no claims are cancelled; and no claims have been added. Claims 1-12 are now pending in this application.

In The Drawings

The Office Action indicates that the Examiner has approved drawing corrections to Figures 1-3, and a complete set of drawings (Figs. 1-7) is filed herewith. The drawings will be formalized upon receipt of a Notice of Allowance.

Rejections Under 35 USC §103

The Office Action rejected claims 7 and 8 under 35 USC §103(a) as being unpatentable over Chau et al. (US Patent No. 6,147, 987; hereinafter referred to as Chau) in view of Armistead et al. (US Patent No. 6,260,071; hereinafter referred to as Armistead) and Eckes et al. (US Patent No. 6,243, 832; hereinafter referred to as Eckes).

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.* The *Fine* court stated that:

> Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732

> F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so." *Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

> In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992). At the same time, however, although it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (*See*, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979)).

Applicant respectfully submits that the Office Action did not make out a *prima facie* case of obviousness for the following two reasons: (1) even if combined, the cited references fail to teach or suggest all of the elements of applicant's claimed invention; and (2) there is no suggestion to combine the cited references because a suggestion to combine must come from the prior art and not from Applicant's specification or impermissible hindsight.

In the following discussion, the teachings of Chau, Armistead, and Eckes will first be summarized and then the independent claims 7 and 8 will be analyzed with respect to the teachings of the references.

Chau teaches a modular architecture for connecting a plurality of telephone lines to a computer network. The architecture provides a tunneling mechanism, which facilitates packet re-forwarding, so that a call dialed into a physical port in a network access server can be re-

forwarded through a logical port in another network access server. (*See* abstract). The packet re-forwarding mechanism provides support for spoofing. In Figure 15, Chau illustrates a sequence of operations for spoofing a network access server system or packet processor. Chau's spoofing technique is a method for eliminating and establishing communication links based on the communication traffic flow over the links. The following is a passage from Chau describing the spoofing operations shown in Figure 15.

> FIG. 15 illustrates the sequence of operations involved in spoofing at a network access server system or packet processor system in accordance with an aspect of the present invention. The system starts at step 1500 which is a start state. It then proceeds to step 1502, wherein the system monitors traffic on a pre-existing connection. It then proceeds to step 1504. At step 1504, the system asks whether the connection has been "idle" for a significant period of time. "Idle" means either there is no traffic at all, or there has only been link maintenance traffic, such as keep alive packets, on the connection. If the link has been idle, the system proceeds to step 1506. If not, the system proceeds to step to 1514 which is an end state. At step 1506, the system has determined that the connection as been idle for a significant period of time and the system tears down the link. The system then proceeds to step 1508. At step 1508, the system monitors traffic through the link. The system then proceeds to step 1510. At step 1510, the system asks whether traffic through the link has been resumed. If not, the system proceeds to step 1514 which is an end state. If so, the system proceeds to step 1512. At step 1512, the system re-establishes the link for the multilink connection. The system then proceeds to step 1514 which is an end state.

From Chau's description of Figure 15, it is apparent that Chau's spoofing technique teaches *managing communication links by eliminating idle communication links and reestablishing active communication links*. It will be shown below, that Chau's spoofing technique is vastly different than the spoofing recited in claims of the present application.

Now the teachings of Armistead will be described. Armistead teaches a method and apparatus for automatic routing of circuit switched data connections based upon stored behavioral information. In the background section, Armistead teaches that a network access server (NAS) typically provides dial-up Internet services by transmitting and receiving data through a public switched telephone network (PSTN) over transmission facilities, such as BRI, T1, E1, T3, SONET, or SDH lines. *See* Armistead at column 1, lines 13-19. Armistead also indicates that large NASs are typically constructed from multiple remote access concentrators

(RACs), where each RAC has transmission facilities connecting to the PSTN. *See* Armistead column 1, lines 31-36.

Now the teachings of Eckes will be described. Eckes teaches a network access server testing system and methodology. Eckes' testing system is used for stress testing a NAS. Eckes' testing system includes a test computer system including a bank of modems (preferably 24 to 48 modems), a NAS, and a host computer system. *See* Figure 2. The test computer system tests the NAS by establishing a plurality of concurrent connections and transferring data over those connections to the host computer via the NAS. *See* column 7, lines 41-45. When testing the NAS, the test computer system executes a computer program that spawns a plurality of background processes, where each process establishes a connection with the NAS at substantially the same time. *See* column 9 lines 6-11.

In rejecting independent claim 7, the Office Action asserts that various passages from Chau, Armistead, and Eckes teach or suggest all the elements recited in independent claim 7. Claim 7 recites "a Public Switched Telephone Network (PSTN) interface connected to the processor, wherein the processor includes **program code for spoofing individual analog modem connections** across the Public Switched Telephone Network (PSTN) interface." (Emphasis added.) None of the cited references, alone or in combination, teach the claim limitation quoted above, as described in detail below.

In its rejection, the Office Action admits that Chau does not disclose an RAS concentrator, a Public Switched Telephone Network interface connected to a processor, or spoofing individual modem connections. As such, the Office Action must be relying on Chau for teaching its particular spoofing technique. Applicant respectfully submits that the Office Action has confused Chau's spoofing technique with the spoofing recited in independent claim 7. The discussion below will set out the differences between Chau and claim 7's spoofing.

As described in detail above, Chau teaches a spoofing technique that involves eliminating idle network links and reestablishing links having traffic. In contrast, the present application teaches "spoofing" (as recited in claim 7) as using digital connections of an RAS concentrator to communicate with analog modems. *See* page 6, line 17. The present application states, "Analog spoof mode is used to make the device under test think it is communicating with a number of individual analog modems..." Page 9, lines 5-6. Without such spoofing, an RAS concentrator's

digital connections would not properly communicate with analog modems. The present application states, "Each RAS concentrator 16 is digitally connected but must be able to spoof an analog modem." Page 6, lined 17 -18. An example of this spoofing occurs when an RAC concentrator tests a V.90 or K56flex modem-based communications server by spoofing the communication server during the V.8 or V.8bis connection negotiations, as described in the present application. *See* page 6, lines 17 et seq. Therefore, as set forth in claim 7, spoofing is a technique for configuring a digital connection to communicate with an analog modem. Thus claim 7's spoofing is not a technique for managing communication links by eliminating idle communication links and reestablishing active communication links, as described by Chau.

Additionally, it is notable that Chau's Figure 15 and its accompanying text did not mention anything related to configuring digital connections for properly communicating with analog devices. To summarize the differences, Chau's spoofing involves establishing and eliminating communication links, while the spoofing of claim 7 relates to configuring digital devices to communicate with analog devices. Because Chau's spoofing technique vastly differs from the spoofing recited in independent claim 7, Chau does not teach any element of independent claim 7.

Regarding the other references, for the cited combination to teach or suggest all the claim elements, Armistead or Eckes must provide what Chau is lacking. The Office Action does not point to a passage in Armistead or Eckes that recites spoofing, and Applicant knows of no such passage. Therefore, the combination of Chau, Armistead, and Eckes does not teach or suggest all the elements of independent claim 7.

In addition to not teaching all the claim elements, there is no suggestion to combine the cited references. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. The Examiner must avoid hindsight. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). The Office Action does not cite a passage from Chau, Armistead, or Eckes that teaches or suggests combining the teachings of the references. Without such a citation, Applicant respectfully submits that the Office Action impermissibly relied on the Applicant's

disclosure and/or impermissible hindsight in forming the rejections under 35 USC §103 over the cited references.

Independent claim 8 was also rejected over Chau, Armistead, and Eckes. Independent claim 8 also recites a processor that includes code for spoofing. As similarly discussed above, none of the cited references teach or suggest spoofing as recited in claim 8. Therefore, Applicant respectfully submits that independent claim 8 is in condition for allowance.

The Office Action rejected claim 9 under 35 USC §103(a) as being unpatentable over Chau, Armistead, Eckes, and Eng et al. (US Patent No. 6,195,359; hereinafter referred to as Eng). Claim 9 depends on independent claim 8 and therefore includes all the limitations recited in claim 8. As such, claim 9 includes limitations for a processor that includes code for spoofing (see claim 8 for exact language). The only way for the combination of Chau, Armistead, Eckes, and Eng to teach all the elements of dependent claim 9 is for Eng to provide what the other references are lacking. Eng teaches an intelligent router for remote Internet access. However, Eng does not teach spoofing, as recited in claim 9. Therefore, the combination of Chau, Armistead, Eckes, and Eng does not teach all the elements of claim 9.

Allowable Subject Matter

Claims 1-6 and 10-12 have been allowed.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 371-2169 to facilitate prosecution of this application.

If necessary, please charg any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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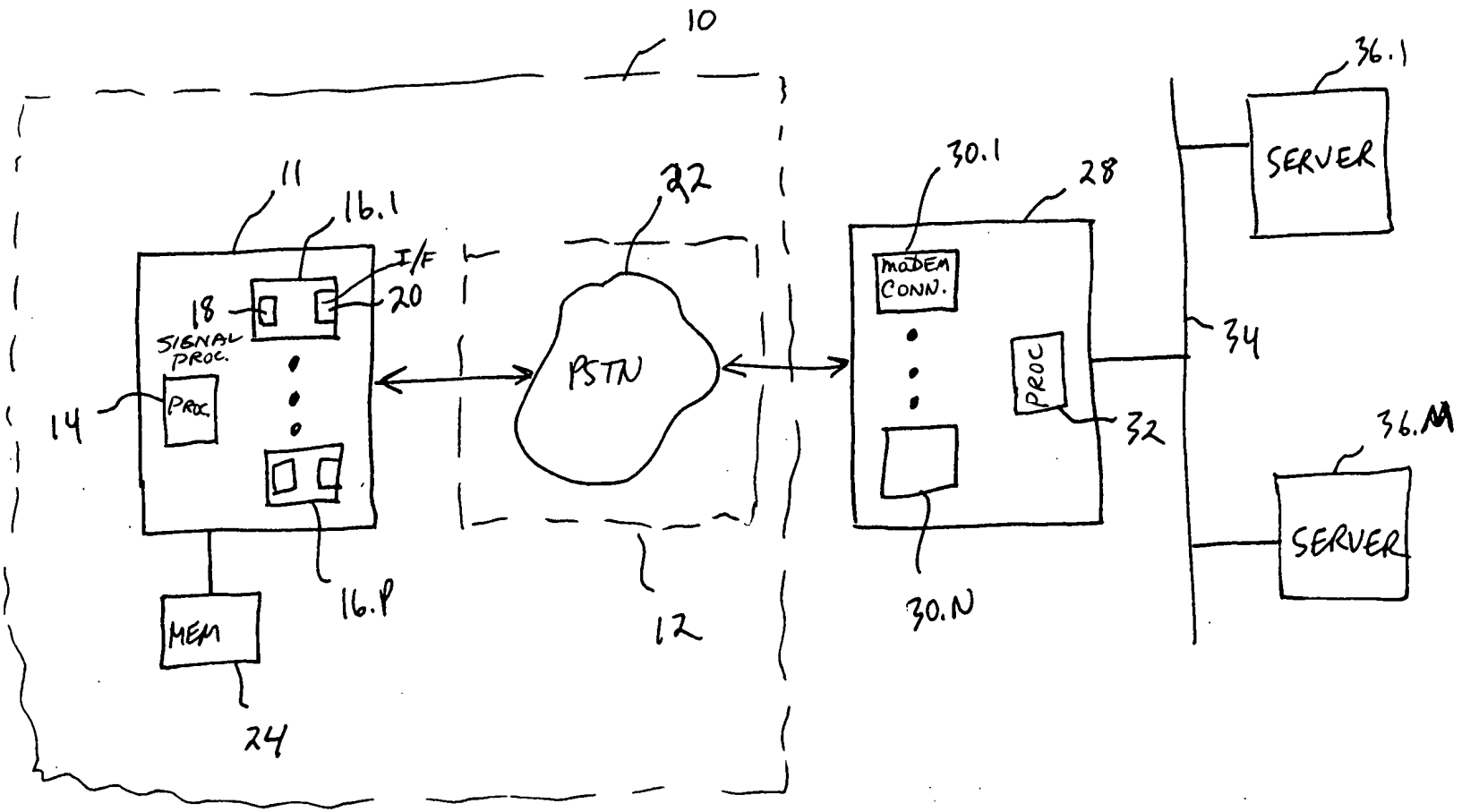

Fig. 1

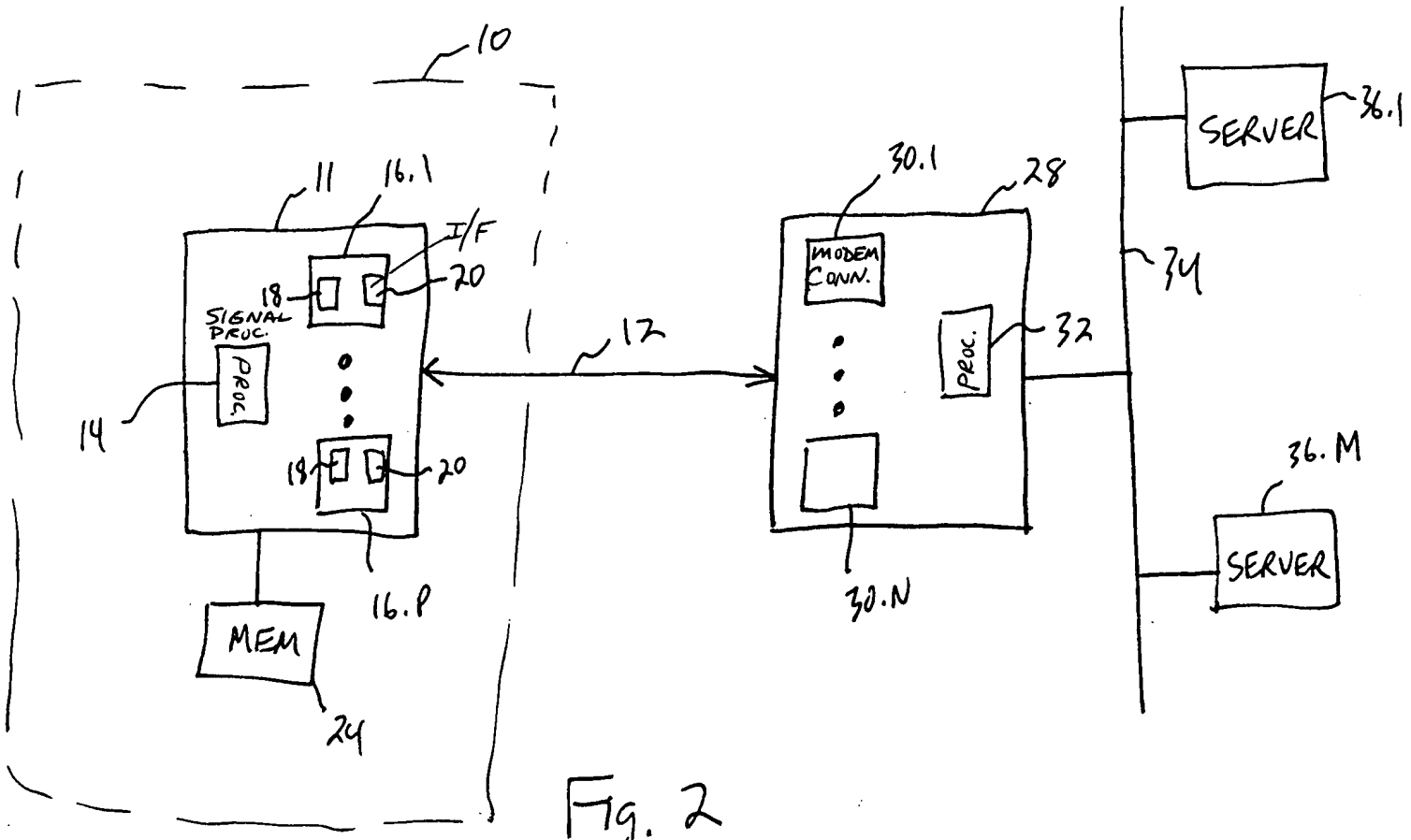

Fig. 2

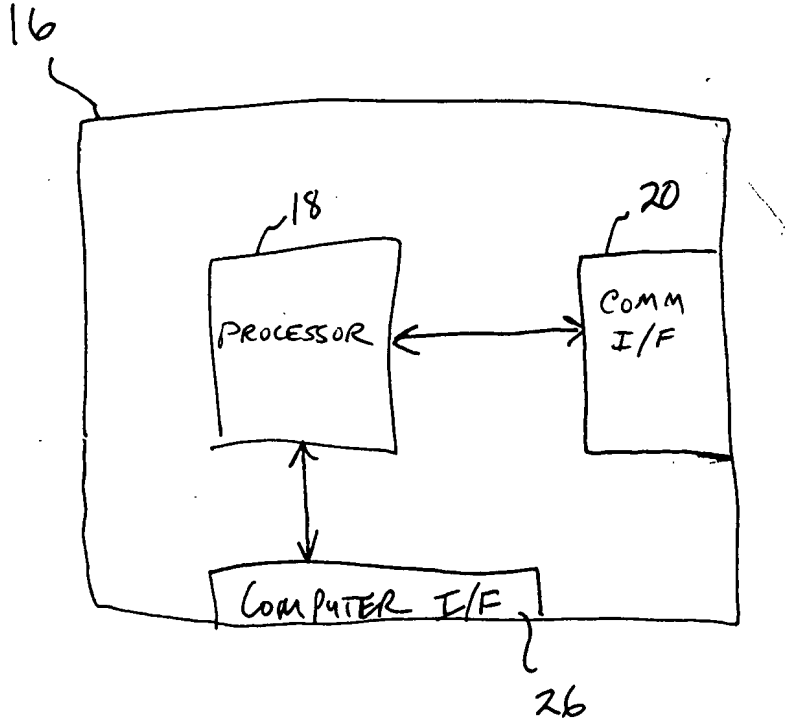

Fig. 3

Table 2/V.8 – Information categories

Start	b0	b1	b2	b3	b4	b5	b6	b7	Stop	Category octets (b4 = 0) with category given by tag b0-b3
0	1	0	0	0	0	x	x	x	1	Call function
0	1	0	1	0	0	x	x	x	1	Modulation modes
0	0	1	0	1	0	x	x	x	1	Protocols
0	1	0	1	1	0	x	x	x	1	PSTN access
0	1	1	1	1	0	x	x	x	1	Non-standard facilities
0	0	1	1	0	0	x	x	x	1	For use by the Telecommunications Industries Association (USA)
0	1	1	1	0	0	x	x	x	1	V.90 availability

40

44

42

Fig. 4

Identification field – {SPar(1)} coding

8	7	6	5	4	3	2	1	SPar(1)s
x	x	x	x	x	x	x	1	Network type (Note)
x	x	x	x	x	x	1	x	Reserved for allocation by the ITU-T
x	x	x	x	x	1	x	x	Reserved for allocation by the ITU-T
x	x	x	x	1	x	x	x	Reserved for allocation by the ITU-T
x	x	x	1	x	x	x	x	Reserved for allocation by the ITU-T
x	x	1	x	x	x	x	x	Reserved for allocation by the ITU-T
x	1	x	x	x	x	x	x	Reserved for allocation by the ITU-T
x	0	0	0	0	0	0	0	No parameters set in this octet

NOTE – The absence of a binary ONE in this bit position indicates that the DCE is connected to an analogue PSTN connection.

Fig. 5

Identification field – Network type {NPar(2)} coding

8	7	6	5	4	3	2	1	Network Type NPar(2)s
x	x	x	x	x	x	x	1	Cellular access
x	x	x	x	x	x	1	x	ISDN access
x	x	x	x	x	1	x	x	DigitalPS TN access (Note)
x	x	x	x	1	x	x	x	Reserved for allocation by the ITU-T
x	x	x	1	x	x	x	x	Reserved for allocation by the ITU-T
x	x	1	x	x	x	x	x	Non-standard network
x	x	0	0	0	0	0	0	No parameters set in this octet

NOTE – Thisb it is set to binary ONE to indicate digital PSTN access, other than ISDN, where the DCE delivers digitally encoded analogue content to the network.

Fig. 6

– Standard information field – Data {NPar(2)} coding – Octet 3

8	7	6	5	4	3	2	1	Data NPar(2)s
x	x	x	x	x	x	x	1	Rec. V.32
x	x	x	x	x	x	1	x	Rec. V.22 *bis*
x	x	x	x	x	1	x	x	Rec. V.22
x	x	x	x	1	x	x	x	Rec. V.21
x	x	x	1	x	x	x	x	V.90 analogue modem
x	x	1	x	x	x	x	x	V.90 digital modem (Note)
x	x	0	0	0	0	0	0	No parameters in this octet

NOTE – A digital V.90 modem cannoto perate on an analogue PSTN connection. See Note to Table 5.2.

Fig. 7

Fig. 8